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BULLETIN
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Notes on the Flora of South Georgia

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During the summers of 1895, 1896 and 1897 I devoted most of my time to botanizing in and around Americus, the county seat of Sumter County, Georgia, which was my home at that time. As this region is almost unknown to botanists, I had excellent opportunity to observe many little-known or otherwise interesting plants, some of them far out of their accredited ranges.

Sumter County is situated in the western part of that section known as South Georgia, which includes about 64 counties, with an area of 35,000 square miles, or over half the area of the State. South Georgia is sharply defined both geologically and topographically from the older sections of the State, especially from Middle Georgia, which adjoins it on the northwest. It varies in elevation from sea-level to about 600 feet, and contains three distinct geological formations. Of these, the Cretaceous is represented by a narrow wedge-shaped area in the northwestern portion, and the Quaternary by a narrow strip along the coast and larger rivers, while the remainder belongs to the Tertiary formation.

Sumter County, as far as known, lies entirely in the Tertiary, though its northwestern corner approaches within a short distance of the Cretaceous. The predominating soil in Sumter County, as throughout South Georgia, is sand, generally mixed with more or less clay, organic matter, or marl; the latter being principally confined to the vicinity of the Flint River, on the eastern border of the county.

The average annual temperature of Americus is 68° F., with the following averages for the four seasons : spring, 68°; summer, 81°; autumn, 69°; winter, 54°. The average rainfall is for spring, 13 inches ; summer, 16 ; autumn, 8 ; winter, 10 ; total for the year, 47. It will be noticed that over one third of the total annual precipitation occurs in the summer, a fact which, no doubt, has its effect on the character of the flora.

Of the numerous floral and agricultural regions into which South Georgia is divided, I have noticed but two principal ones in Sumter County : the red-clay hill region and the pine-barren region. The former seems to correspond with the Lower Eocene formation and the latter with the Middle Eocene. The red-clay hills form a belt extending across the northwestern part of the county, and consist of low, rounded ridges, with broad valleys between them. The pine-barrens are in the southeastern part, and are almost perfectly level throughout. Both regions, like the whole of South Georgia, are characterized by the scarcity of surface rocks, the few that do occur being in the form of small boulders or pebbles.

The city of Americus lies near the dividing line between these two regions, so that I had equal facilities for studying both. With the exception of two trips into Dooly County, on the east, and one each into Schley and Macon Counties on the north, my botanical operations during these three summers were confined to Sumter County. This vicinity is remarkable for the large number of coast plants which here reach their inland limits, 125 miles from the Gulf coast and about 200 from the Atlantic. The region I explored is nearly all north of lat. 32° N. and west of long. 84° W., and at a higher altitude and, of course, farther inland than any point in Florida.

In a preceding number of the BULLETIN I have mentioned the great difference between the floras of Middle and South Georgia. Probably less than one half of the species of spermatophytes in Clarke County are common to Sumter County. On comparing the two floras we find the same kind of differences between them as are said to exist between temperate and tropical regions. In South Georgia the species seem to be more numerous and the individual plants fewer and farther apart (this

is especially noticeable in the case of the grasses); there are more evergreen trees and shrubs and fewer evergreen herbs; and there are more species of climbing plants and epiphytic spermatophytes. Comparing the representation of various families in the two regions, we find in South Georgia more species of Cyperaceae, Orchidaceae, Nymphaeaceae, Magnoliaceae, Leguminosae, Euphorbiaceae, Aquifoliaceae, Rhamnaceae, Malvaceae, Hypericaceae, Melastomaceae, Onagraceae, Halorrhagidaceae, Loganiaceae, Gentianaceae, Asclepiadaceae and Rubiaceae; and fewer species of Cupuliferae, Caryophyllaceae, Ranunculaceae, Cruciferae, Crasulaceae, Saxifragaceae, Rosaceae, Violaceae, Cornaceae and Labiatae. To illustrate the deficiencies in some of the latter families, I will mention that I have found the Caryophyllaceae (exclusive of Illecebraceae) and Cruciferae represented only by a few weeds, the Ranunculaceae only by two or three species of *Clematis*, and the Saxifragaceae only by the shrubby genus *Itea*, with a single species.

The flora of South Georgia, at least of that part of it which I have explored, seems to be more highly differentiated into plant-communities than that of Middle Georgia. I have recognized twelve or fifteen distinct floral areas in Sumter County alone, and this number could no doubt be considerably increased by careful study. The plants of this region seem to be more exacting in their requirements for perfect development than those of colder climates, hence there is very little intergradation between the various plant-communities.

I will mention first the strictly aquatic plants, which inhabit ponds and streams, either floating free or rooting in the mud. These are found mostly in artificial mill-ponds, for natural ponds in this region are very small and few and far between. The following aquatics have been observed in Sumter County :

<i>Potamogeton diversifolius</i> Raf.	<i>Castalia odorata</i> (Dryand.)
<i>Isachne</i> Tuckerm.	Woodv. & Wood.
<i>Elodea interstincta</i> (Vahl) R. & S.	<i>Myriophyllum heterophyllum</i> Mx.
<i>Lemna minor</i> L.	<i>Limnanthemum lacunosum</i>
<i>Brasenia purpurca</i> (Mx.) Caspary.	(Vent.) Griseb.
	<i>aquaticum</i> (Walt.) Britton.
	<i>Utricularia inflata</i> Walt.

Most of the above I have found in only one or two localities each. It may be of interest to note that *Limnanthemum aquaticum* may be either a rooting or a floating plant. It seems to make no difference to the plant whether its petioles are attached to the rootstock or not, for I have found the plants in great abundance crowded together along the shore of a pond and floating free, with their petioles broken off below the inflorescence, but with flowers open as usual.

In wet ditches and open muddy places I have found the following species :

<i>Sparganium androcladum</i> (Engelm.) Morong.	<i>Jussiaea leptocarpa</i> Nutt.
<i>Sagittaria latifolia</i> Willd.	<i>Ludwigia alternifolia</i> L.
<i>Paspalum distichum</i> L.	<i>glandulosa</i> Walt.
<i>Dulichium arundinaceum</i> (L.) Britton.	<i>Isnardia palustris</i> L.
<i>Eleocharis obtusa</i> (Willd.) Schult.	<i>Proserpinaca palustris</i> L.
<i>Carex lupulina</i> Muhl.	<i>Hydrocotyle umbellata</i> L.
<i>Orontium aquaticum</i> L.	<i>Cynoctonum Mitreola</i> (L.) Britton.
<i>Polygonum hydropiperoides</i> Mx.	<i>Micranthemum orbiculatum</i> Mx.
<i>Hypericum mutilum</i> L.	<i>Utricularia macrorhyncha</i> Barnhart.
<i>Jussiaea decurrens</i> (Walt.) DC.	

The following are found in alluvial woods and swamps and on muddy banks of creeks and rivers subject to overflow :

<i>Botrychium obliquum</i> Muhl.	<i>Habenaria flava</i> (L.) Gray.
<i>Polypodium polypodioides</i> (L.) A. S. Hitchcock.	<i>Saururus cernuus</i> L.
<i>Taxodium distichum</i> (L.) L. C. Rich.	<i>Populus deltoides</i> Marsh.
<i>Juniperus Virginiana</i> L.	<i>Carpinus Carolinana</i> Walt.
<i>Sabal glabra</i> (Mill.) Sarg.	<i>Quercus lyrata</i> Walt.
<i>Arundinaria macrosperma</i> Michx.	<i>Michauxii</i> Nutt.
<i>Scirpus divaricatus</i> Ell.	<i>Boehmeria cylindrica</i> (L.) Willd.
<i>Rhynchospora corniculata</i> (Lam.) Gray.	<i>Liriodendron Tulipifera</i> L.
<i>Carex folliculata australis</i> Bailey.	<i>Clematis crispa</i> L.
<i>Peltandra Virginica</i> (L.) Kunth.	<i>Penthorum sedoides</i> L.
<i>Tillandsia usneoides</i> L.	<i>Ilex opaca</i> Ait.
<i>Commelina hirtella</i> Vahl.	<i>Berchemia scandens</i> (Hill) Trel.
<i>Iris versicolor</i> L.	<i>Triadenum petiolatum</i> (Walt.) Britton.
	<i>Hydrocotyle verticillata</i> Thunb.
	<i>Cornus Amonum</i> Mill.

<i>Nyssa uniflora</i> Wang.	<i>Tecoma radicans</i> (L.) DC.
<i>Leucothoë racemosa</i> (L.) Gray.	<i>Dianthera Americana</i> L.
<i>Fraxinus Americana</i> L.	<i>Lobelia cardinalis</i> L.
<i>Caroliniana</i> Mill.	<i>Conoclinium coelestinum</i> (L.) DC.
<i>Chionanthus Virginica</i> L.	<i>Pluchea petiolata</i> Cass.
<i>Hydrolea quadrivalvis</i> Walt.	

Polypodium and *Tillandsia* are usually epiphytes, but I have included them here because in this region they are mostly confined to river-swamps.

In non-alluvial swamps and wet woods, where the soil consists largely of humus, the flora is quite different from that just mentioned, as may be seen from the following list :

<i>Asplenium Filix-foemina</i> (L.) Bernh.	<i>Liquidambar Styraciflua</i> L.
<i>Osmunda regalis</i> L.	<i>Rhus Vernix</i> L.
<i>cinnamomea</i> L.	<i>Cyrilla racemiflora</i> Walt.
<i>Arisaema triphyllum</i> (L.) Torr.	<i>Ilex glabra</i> (L.) Gray.
<i>Lilium superbum</i> L.	<i>Acer rubrum</i> L.
<i>Smilax laurifolia</i> L.	<i>Decodon verticillatus</i> (L.) Ell.
<i>Walteri</i> Pursh.	<i>Ludwigia pilosa</i> Walt.
<i>Myrica cerifera</i> L.	<i>Parthenocissus quinquefolia</i> (L.) Planch.
<i>Alnus rugosa</i> (DuRoi) Koch.	<i>Aralia spinosa</i> L.
<i>Ulmus alata</i> Mx.	<i>Clethra alnifolia</i> L.
<i>Magnolia glauca</i> L.	<i>Azalea viscosa</i> L.
<i>Liriodendron Tulipifera</i> L.	<i>Cephalanthus occidentalis</i> L.
<i>Itca Virginica</i> L.	<i>Pinckneya pubens</i> Mx.
<i>Rosa Carolina</i> L.	<i>Sambucus Canadensis</i> L.
<i>Cercis Canadensis</i> L.	<i>Viburnum nudum</i> L.
<i>Kraunhia frutescens</i> (L.) Greene.	<i>dentatum</i> L.
<i>Apios tuberosa</i> Moench.	<i>Mikania scandens</i> (L.) Willd.

A number of species grow on the banks of creeks and rivers above the usual high-water mark which are not found in the alluvial swamps lower down. Among these are the following :

<i>Uniola latifolia</i> Mx.	<i>Sebastiania ligustrina</i> (Mx.) Müll.
<i>Smilax Bona-nox</i> L.	Arg.
<i>Salix nigra</i> Marsh.	<i>Passiflora lutea</i> L.
<i>Betula nigra</i> L.	<i>Kalmia latifolia</i> L.
<i>Fagus Americana</i> Sweet.	<i>Styrax Americana</i> Lam.
<i>Magnolia grandiflora</i> L.	<i>Catalpa bignonioides</i> Walt.
<i>Amelanchier Canadensis</i> (L.) Medic.	<i>Diodia Virginiana</i> L.

The wet meadows of Sumter County have quite an interesting flora. The following species have been collected mostly in the meadows along Muckalee Creek in Americus :

<i>Woodwardia arcolata</i> (L.) Moore.	<i>Gyrostachys praecox</i> (Walt.) Kuntze.
<i>Virginica</i> (L.) J. E. Smith.	
<i>Osmunda regalis</i> L.	<i>Glottidium Floridanum</i> DC.
<i>cinnamomea</i> L.	<i>Linum striatum</i> Walt.
<i>Homalocenchrus oryzoides</i> (L.) Poll.	<i>Hibiscus aculeatus</i> Walt.
	<i>Rhexia Virginica</i> L.
<i>Cyperus strigosus</i> L.	<i>Mariana</i> L.
<i>Kyllinga pumila</i> Mx.	<i>Ludwigia sphacrocarpa</i> Ell.
<i>Scirpus Eriophorum</i> Mx.	<i>Oxypolis rigidus</i> (L.) Britton.
<i>Rhynchospora glomerata paniculata</i> (Gray) Chapm.	<i>Asclepias lanceolata</i> Walt.
<i>inexpansa</i> (Mx.) Vahl.	<i>Mentha viridis</i> L.
<i>Carex vulpinoidea</i> Mx.	<i>Mesosphacrum rugosum</i> (L.) Pol- lard.
<i>verrucosa</i> Muhl.	<i>Gerardia purpurea</i> L.
<i>Melanthium Virginicum</i> L.	<i>Vernonia Novboracensis</i> (L.) Willd.
<i>Lilium Catesbaci</i> Walt.	
<i>Habenaria ciliaria</i> (L.) R. Br.	<i>Eupatorium purpureum</i> L.
<i>cristata</i> (Mx.) R. Br.	

In sandy or sphagnum bogs are found the following species :

<i>Lycopodium Carolinianum</i> L.	<i>Polygala lutea</i> L.
<i>adpressum</i> (Chapm.) Lloyd & Underw.	<i>cruciata ramosior</i> Nash.
<i>Campulosus aromaticus</i> (Walt.) Scribn.	<i>Ascyrum stans</i> Mx.
<i>Cyperus Haspan</i> L.	<i>Hypericum fasciculatum</i> Lam.
<i>Firenra squarrosa hispida</i> (Ell.) Chapm.	<i>pilosum</i> Walt.
<i>Carex verrucosa</i> Muhl.	<i>Triadenum Virginicum</i> (L.) Raf.
<i>Mayaca Aubleti</i> Mx.	<i>Rotala ramosior</i> (L.) Koehne.
<i>Eriocaulon decangulare</i> L.	<i>Rhexia ciliosa</i> Mx.
<i>Tofieldia racemosa</i> (Walt.) B.S.P.	<i>Pieris nitida</i> (Bartr.) Benth & Hook.
<i>Zygadenus glaberrimus</i> Mx.	<i>Cynoctonum sessilifolium</i> (Walt.) Gmel.
<i>Aletris aurca</i> Walt.	<i>Sabbatia macrophylla</i> Hook.
<i>Habenaria blephariglottis</i> (Willd.) Torr.	<i>Bartonia Virginica</i> (L.) B.S.P.
	<i>Gratiola pilosa</i> Mx.
<i>Pogonia ophioglossoides</i> (L.) Ker.	<i>quadridentata</i> Mx.
<i>Limodorum tuberosum</i> L.	<i>Oldenlandia uniflora</i> L.
<i>Sarracenia rubra</i> Walt.	<i>Eupatorium perfoliatum</i> L.
<i>Drummondii</i> Croom.	<i>Solidago stricta</i> Ait.
<i>Drosera capillaris</i> Poir.	<i>Coreopsis gladiata</i> Walt.
<i>Pyrus arbutifolia</i> (L.) L. f.	<i>Baldwinia uniflora</i> Nutt.

In sandy soil which is too dry for a bog, but not dry enough to be loose, a number of interesting species are found. This kind of soil is frequent in the ditches along railroad tracks, and is characterized by the following species :

<i>Pteris aquilina</i> L.	<i>Ptilimnium capillaccum</i> (Mx.)
<i>Paspalum laeve</i> Mx.	Hollick.
<i>purpurascens</i> Ell.	<i>Steironema lanceolatum</i> (Walt.)
<i>Panicum elongatum</i> Pursh.	Gray.
<i>Cyperus pseudovegetus</i> Steud.	<i>Sabbatia angularis</i> (L.) Pursh.
<i>Eleocharis tuberculosa</i> R. Br.	<i>Collinsonia anisata</i> Sims.
<i>Fimbristylis autumnalis</i> (L.) R.	<i>Mesosphacrum rugosum</i> (L.) Pol-
& S.	lard.
<i>Scirpus Americanus</i> Pers.	<i>Monnina acuminata</i> (Walt.)
<i>Lipocarpha maculata</i> (Mx.) Torr.	Kuntze.
<i>Xyris Caroliniana</i> Walt.	<i>Ilysanthes refracta</i> (Ell.) Benth.
<i>Juncus marginatus</i> Rostk.	<i>Gerardia purpurea</i> L.
<i>scirpoides</i> Lam.	<i>Helianthus angustifolius</i> L.
<i>Lilium Carolinianum</i> Mx.	<i>Helonium autumnale</i> L.
<i>Eryngium aquaticum</i> L.	<i>Erechtites hieracifolia</i> (L.) Raf.

Richest in number of species, particularly in Leguminosae and Compositae, are the comparatively large areas of dry loose sand. The following is a partial list of species inhabiting such areas :

<i>Pteris aquilina</i> L.	<i>Sassafras officinale</i> Nees &
<i>Pinus palustris</i> Mill.	Eberm.
<i>Andropogon furcatus</i> Muhl.	<i>Rubus trivialis</i> Mx.
<i>Cenchrus echinatus</i> L.	<i>Morongia angustata</i> (T. & G.)
<i>Cyperus retrofractus</i> (L.) Torr.	Britton.
<i>Scleria triglomerata</i> Mx.	<i>Cassia Chamacrista</i> L.
<i>pauciflora</i> Muhl.	<i>nictitans</i> L.
<i>Commelina Virginica</i> L.	<i>Baptisia alba</i> (L.) R. Br.
<i>Chrosperma muscatoxicum</i>	<i>lanceolata</i> (Walt.) Ell.
(Walt.) Kuntze.	<i>megacarpa</i> Chapm.
<i>Yucca filamentosa</i> L.	<i>Crotalaria rotundifolia</i> (Walt.)
<i>Agave Virginica</i> L.	Poir.
<i>Castanea pumila</i> (L.) Mill.	<i>Psoralea canescens</i> Mx.
<i>Quercus cinerea</i> Mx.	<i>Kuhnistera pinnata</i> (Walt.)
<i>Eriogonum tomentosum</i> Mx.	Kuntze.
<i>Rumex hastatulus</i> Baldw.	<i>Indigofera Caroliniana</i> Walt.
<i>Froelichia Floridana</i> (Nutt.) Moq.	<i>Zornia bracteata</i> (Walt.) Gmel.
<i>Paronychia riparia</i> Chapm.	<i>Meibomia stricta</i> (Pursh) Kuntze.
<i>Clematis reticulata</i> Walt.	<i>Lespedeza Stuevei</i> Nutt.

- Bradburya Virginiana* (L.) Kuntze.
Clitoria Mariana L.
Strophostyles umbellata (L.) Britton.
Dolicholus tomentosus (L.) Vail.
 simplicifolius (Walt.) Vail.
 erectus (Walt.) Vail.
Polygala incarnata L.
 polygama Walt.
 Boykinii Nutt.
 grandiflora Walt.
Tragia urticaefolia Mx.
 urcus L.
Jatropha stimulosa Mx.
Stillingia sylvatica L.
Euphorbia cordifolia Ell.
Rhus copallina L.
Ceanothus Americanus L.
Vitis aestivalis Mx.
Ascyrum multicaule Mx.
Cfscyrum pumilum Mx.
Hypericum maculatum Walt.
Sarothra gentianoides L.
Lecheca villosa Ell.
Opuntia vulgaris Mill.
Gaura Michauxii Spach.
Angelica villosa (Walt.) B.S.P.
Vaccinium arborcum Marsh.
Polypremum procumbens L.
Amsonia angustifolia (Ait.) Michx.
Apocynum cannabinum L.
Asclepias verticillata L.
 amplexicaulis Smith.
 tuberosa L.
Accrates viridiflora (Raf.) Eaton.
Ipomoea pandurata L.
Breweeria humistrata (Walt.) Gray.
Cuscuta arvensis Beyr.
Onosmodium Virginianum (L.) A. DC.
Verbena Caroliniana Mx.
Callicarpa Americana L.
Salvia azurea Lam.
Dicerandra linearifolia (Ell.) Benth.
Monarda punctata L.
Trichostema dichotomum L.
Physalis Virginica Mill.
Afzelia pectinata (Pursh) Kuntze.
Dasystema flava (L.) Wood.
 Virginica (L.) Britton.
Calophanes oblongifolia (Mx.) Don.
Galium hispidulum Mx.
Vernonia angustifolia Mx.
Eupatorium hyssopifolium L.
 album L.
 rotundifolium L.
Lacinaria elegans (Walt.) Kuntze.
 scariosa (L.) Hill.
 tenuifolia (Nutt.) Kuntze.
Chrysopsis Mariana (L.) Nutt.
 graminifolia (Mx.) Nutt.
Isopappus divaricatus (Nutt.) T. & G.
Scricocarpus bifolius (Walt.) Porter.
Silphium Asteriscus L.
 compositum Mx.
Berlandiera tomentosa Nutt.
Rudbeckia hirta L.
Tetragonotheca helianthoides L.
Helianthus divaricatus L.
Corcopsis major Walt.
 tripteris L.
Gaillardia lanceolata Mx.
Lygodesmia aphylla (Nutt.) DC.

In South Georgia the flora of roadsides, waste places, and cultivated fields is very similar to that of the dry sand areas, and it is impossible to draw a sharp line between them. Almost any of

the sand-loving plants may be found along roadsides or in other artificial localities, but the following seem to be mostly confined to such places :

<i>Andropogon scoparius</i> Mx.	<i>Modiola Caroliniana</i> (L.) Don.
<i>Syntherisma sanguinalis</i> (L.) Krok.	<i>Sida spinosa</i> L.
<i>Chaetochloa viridis</i> (L.) Scribn.	<i>Passiflora incarnata</i> L.
<i>Sporobolus Indicus</i> (L.) R. Br.	<i>Onagra biennis</i> (L.) Scop.
<i>Capriola Dactylon</i> (L.) Kuntze.	<i>Hartmannia speciosa</i> (Nutt.) Small.
<i>Eleusine Indica</i> (L.) Gaertn.	<i>Daucus pusillus</i> Mx.
<i>Dactyloctenium Aegyptiacum</i> (L.) Willd.	<i>Ipomoea coccinea</i> L.
<i>Cyperus rotundus</i> L.	<i>purpurea</i> (L.) Roth.
<i>Stenophyllum capillaris</i> (L.) Britton.	<i>hederacea</i> Jacq.
<i>Polygonum Pennsylvanicum</i> L.	<i>Jacquemontia tannifolia</i> (L.) Griseb.
<i>Chenopodium ambrosioides</i> L.	<i>Cuscuta arvensis</i> Beyr.
<i>Amarantus spinosus</i> L.	<i>Heliotropium Indicum</i> L.
<i>retroflexus</i> L.	<i>Verbena bracteosa</i> Mx.
<i>Phytolacca decandra</i> L.	<i>Laminum amplexicaule</i> L.
<i>Boerhaavia erecta</i> L.	<i>Leonotis nepetaefolia</i> R. Br.
<i>Mollugo verticillata</i> L.	<i>Physalis angulata</i> L.
<i>Portulaca oleracea</i> L.	<i>Solanum nigrum</i> L.
<i>Alsine media</i> L.	<i>Carolinense</i> L.
<i>Lepidium Virginicum</i> L.	<i>Datura Tatula</i> L.
<i>Coronopus didymus</i> (L.) J. E. Smith.	<i>Plantago major</i> L.
<i>Cardamine hirsuta</i> L.	<i>aristata</i> Mx.
<i>Rubus nigrobaccus</i> Bailey.	<i>Diodia tres</i> Walt.
<i>trivialis</i> Mx.	<i>Richardsonia scabra</i> St. Hill.
<i>Albizzia Julibrissin</i> Durazz.	<i>Lonicera Japonica</i> Thunb.
<i>Cassia occidentalis</i> L.	<i>Erigeron Canadensis</i> L.
<i>Tora</i> L.	<i>Ambrosia artemisiacfolia</i> L.
<i>Lespedeza striata</i> (Thunb.) H. & A.	<i>Xanthium strumarium</i> L.
<i>Oxalis stricta</i> L.	<i>Bidens bipinnata</i> L.
<i>Croton glandulosus</i> L.	<i>Helenium tenuifolium</i> Nutt.
<i>Acalypha ostryacfolia</i> Riddell.	<i>Anthemis Cotula</i> L.
<i>Euphorbia Preslii</i> Guss.	<i>Acanthospermum australe</i> (L.) Kuntze.
<i>maculata</i> L.	<i>Sitilias Caroliniana</i> (Walt.) Raf.
	<i>Lactuca Canadensis</i> L.

It will be noticed that very few of these are European weeds. Some have been introduced from the West, some from the tropics,

and a few from Asia, but the majority are natives of Georgia. It may be worthy of note that there are very few species of troublesome weeds in this section.

The dry or rich woods which are so characteristic of Middle Georgia are of small extent in South Georgia, and comparatively few species inhabit them. In the following list of plants growing in woods I have combined both rich and dry woods, as in South Georgia the two kinds are scarcely distinguishable.

<i>Polystichum acrostichoides</i> (Mx.) Schott.	<i>Phascolus polystachyus</i> (L.) B.S.P.
<i>Uniola longifolia</i> Scribn.	<i>Aesculus octandra</i> Marsh.
<i>Carex triceps</i> Mx.	<i>Vitis rotundifolia</i> Mx.
<i>Hymenocallis lacra</i> Salisb.	<i>Ampelopsis arborca</i> (L.) Rusby.
<i>Hypoxis crecta</i> L.	<i>Parthenocissus quinquefolia</i> (L.) Planch.
<i>Dioscorea villosa</i> L.	
<i>Gyrostachys gracilis</i> (Bigel.) Kuntze.	<i>Sida rhombifolia</i> L.
<i>Tipularia unifolia</i> (Muhl.) B.S.P.	<i>Aralia spinosa</i> L.
<i>Hexalectris aphyllus</i> (Nutt.) Raf.	<i>Nyssa sylvatica</i> Marsh.
<i>Quercus digitata</i> (Marsh.) Sudw.	<i>Oxydendrum arborcum</i> (L.) DC.
<i>Phoradendron flavescens</i> (Pursh) Nutt.	<i>Diospyros Virginiana</i> L.
	<i>Koelia incana</i> (L.) Kuntze.
<i>Asimina parviflora</i> (Mx.) Dunal.	<i>Dasystoma pectinata</i> (Nutt.) Benth.
<i>Persca Borbonia</i> (L.) Spreng.	<i>Pedicularis Canadensis</i> L.
<i>Hamamelis Virginiana</i> L.	<i>Epiphegus Virginiana</i> (L.) Bart.
<i>Liquidambar styraciflua</i> L.	<i>Ruellia strepens</i> L.
<i>Agrimonia mollis</i> (T. & G.) Briton.	<i>Mitchella repens</i> L.
<i>Psoralea pedunculata</i> (Mill.) Vail.	<i>Galium uniflorum</i> Mx.
<i>Stylosanthes biflora</i> (L.) B.S.P.	<i>Viburnum rufotomentosum</i> Small.
<i>Mcibomia nudiflora</i> (L.) Kuntze.	<i>Elephantopus tomentosus</i> L.
<i>Falcata comosa</i> (L.) Kuntze.	<i>Solidago brachyphylla</i> Chapm.
	<i>Hieracium Gronovii</i> L.

All the plants mentioned so far are found outside of the pine-barren region. In the pine-barrens the flora is very different, and, to me at least, the most interesting of all.

At this point it might be well to state that the term pine-barren is a very inappropriate one, for the soil of the pine-barrens seems to be just as fertile as any other soil in the region, if not more so. This term is not used by the natives, but has been used so universally in botanical works that it has come to have a very definite meaning.

There are several kinds of pine-barrens, botanically considered. In Sumter County I have distinguished three, differing principally in the amount of water in the soil.

First are the wet pine-barrens, in which the ground is usually covered with water a few inches to a foot or so in depth. I know only one or two such places, but in them I have found the following species :

<i>Pinus palustris</i> Mill.	<i>Sabbatia decandra</i> (see p. 432).
<i>Rhynchospora corniculata</i> (Lam.)	<i>gentianoides</i> Ell.
Gray.	<i>Gratiola quadridentata</i> Mx.
<i>Tracyi</i> Britton.	<i>Monniera Caroliniana</i> (Walt.)
<i>Fontederia cordata</i> L.	Kuntze.
<i>Stillingia aquatica</i> Chapm.	<i>Utricularia purpurea</i> Walt.
<i>Ilex myrtifolia</i> Walt.	<i>juncea</i> Vahl.
<i>glabra</i> (L.) Gray.	<i>Lobelia Nuttallii</i> R. & S.
<i>Hypericum fasciculatum</i> Lam.	<i>Sclerolepis uniflora</i> (Walt.) B.S.P.
<i>Proserpinaca pectinata</i> Lam.	

In the moist pine-barrens, where there is no standing water on the surface, the species are more numerous, the following being a partial list of them :

<i>Lycopodium alopecuroides</i> L.	<i>Ilex myrtifolia</i> Walt.
<i>Pinus palustris</i> Mill.	<i>Hypericum myrtifolium</i> Lam.
<i>Taxodium distichum imbricarium</i>	<i>virgatum</i> Lam.
(Nutt.) Sarg.	<i>Rhexia glabella</i> Mx.
<i>Rottboellia rugosa</i> Nutt.	<i>Hydrocotyle repanda</i> Pers.
<i>Campulosus aromaticus</i> (Walt.)	<i>Sabbatia paniculata</i> (Mx.) Pursh.
Scribn.	<i>campanulata</i> (L.) Torr.
<i>Dichromena latifolia</i> Baldw.	<i>Acerates Floridana</i> (Lam.) A. S.
<i>Rhynchospora axillaris</i> (Lam.)	Hitchcock.
Britton.	<i>Breweria aquatica</i> (Walt.) Gray.
<i>microcarpa</i> Baldw.	<i>Gerardia linifolia</i> Nutt.
<i>Tofieldia racemosa</i> (Walt.) B.S.P.	<i>Trilisa odoratissima</i> (Walt.) Cass.
<i>Aletris aurea</i> Walt.	<i>Chondrophora nudata virgata</i>
<i>Gyrotheca capitata</i> (Walt.)	(Nutt.) Britton.
Morong.	<i>Aster adnatus</i> Nutt.
<i>Habenaria nivea</i> (Nutt.) Spreng.	<i>Pluchea foetida</i> (L.) B.S.P.
<i>Gyrostachys praecox</i> (Walt.)	<i>Rudbeckia Mohrii</i> Gray.
Kuntze.	<i>Helianthus Radula</i> (Pursh)
<i>Limodorum tuberosum</i> L.	T. & G.
<i>Sarracenia lacunosa</i> Bartr.	<i>Coreopsis nudata</i> Nutt.
<i>Polygala cymosa</i> Walt.	

Most of the herbaceous plants of moist pine-barrens have conspicuous white, yellow, or pink-purple flowers. Among those with white flowers are *Dichromena* (in this case it is the involucre that is colored), *Habenaria nivea*, and *Sabbatia paniculata*; with yellow, *Aletris*, *Gyrotheca*, *Polygala cymosa*, *Hypericum myrtifolium*, *H. virgatum*, *Chondrophora* and *Rudbeckia Mohrii*; and with pink-purple, *Limodorum*, *Rhexia*, *Sabbatia campanulata*, *Breweria*, *Gerardia*, *Trilisa*, and *Corcopsis*. As most of these colored flowers, and several others not mentioned, can generally be found in the same locality and at the same time, it follows that these pine-barrens in summer present a very beautiful appearance; and, all things considered, they are most delightful places for the botanist.

Lastly may be mentioned the plants of dry pine-barrens, where the surface soil consists of dry sand. These are not of great extent in Sumter County, and their flora is similar to that of the dry sandy fields already mentioned. The following is a list of some of the principal plants of dry pine-barrens:

<i>Pteris aquilina</i> L.	<i>Ceanothus microphyllus</i> Mx.
<i>Pinus palustris</i> Mill.	<i>Vaccinium stamineum</i> L.
<i>Gymnopogon ambiguus</i> (Mx.)	<i>Asclepias tomentosa</i> Ell.
B.S.P.	<i>Lacinaria elegans</i> (Walt.) Kuntze.
<i>Crotalaria Purshii</i> DC.	<i>tenuifolia</i> (Nutt.) Kuntze.
<i>Cracca Virginiana</i> L.	<i>Corcopsis lanceolata</i> L.
<i>Meibomia arcticola</i> Vail.	<i>delphinifolia</i> Lam.
<i>Galactia erecta</i> (Walt.) Vail.	

The four or five hundred species mentioned in the above lists probably represent less than half the number of pteridophytes and spermatophytes in Sumter County.

Below I give an annotated list of species which are little known, or are of interest on account of their distribution.

As there are very few points in this part of the State whose altitudes are known, I do not attempt to give the altitudinal distribution of each species. I will mention, however, that in the city of Americus the altitude ranges from about 300 feet along Muckalee Creek to 400 or more in the central portions of the city. The altitude of the pine-barren region, about 10 miles southeast of Americus is probably about 250 feet, and that of the Flint

River at the southeastern corner of the county, 22 miles from Americus, about 200 feet.

ADIANTUM CAPILLUS-VENERIS L. Sp. Pl. 1096. 1753

Collected at the mouth of a small limestone cave in Dooly County, near the Flint River, August 5, 1896, and July 26, 1897. This seems to be the only known station in Georgia for this rare fern.

LYCOPodium ALOPECUROIDES L. Sp. Pl. 1102. 1753

This species is quite common in the moist pine-barrens of Sumter County, where it seems to be the only representative of the genus.

LYCOPodium ADPRESSUM (Chapm.) Lloyd & Underwood, Bull. Torr. Club, 27: 153. *pl.* 3. *f.* 14-18. Apr. 1900

This species resembles the preceding very much, but never grows with it, as far as I have observed. I have always found it in sandy bogs outside of the pine-barrens. *L. Carolinianum* inhabits similar localities.

TAXODIUM DISTICHUM IMBRICARIUM (Nutt.) Sargent, Sylva N. A., 10: 152. 1896

On July 26, 1897, I found some small specimens of a *Taxodium* which is evidently referable to this variety, in pine-barrens near Cobb, about three miles west of the Flint River. Although the trees were only about 4 m. tall, they bore considerable fruit. It seems to me that this plant differs sufficiently from *T. distichum* in size, form of leaves, and especially in habitat, to be recognized as a good variety.

JUNIPERUS VIRGINIANA L. Sp. Pl. 1038. 1753

The only place in Georgia where I have seen this tree undoubtedly native is in the Flint River swamps, in Dooly County, where it attains a considerable size. In Middle Georgia it generally has the appearance of being escaped from cultivation.

ROTTBOELLIA RUGOSA Nutt. Gen. 1: 84. 1818

Collected in moist pine-barrens in the eastern part of Sumter County, August 30, 1897, in flower. I do not find that this species has been reported from so far inland before.

Panicum elongatum Pursh, Fl. Am. Sept. 69. 1814

Not rare in rather moist sandy soil, Sumter County. Flowers in late summer. This grass does not seem to have been hitherto reported south of North Carolina. Mr. G. V. Nash has kindly identified one of my specimens, collected in Americus, Aug. 22, 1897.

Eleocharis mutata (L.) R. & S. Syst. 2 : 155. 1817

Found growing in three or four inches of water in a wet meadow near Ellaville, Schley County, July 24, 1895. I know of no other station in Georgia for this species, and it is certainly not common.

Eleocharis tuberculosa (Mx.) R. & S. Syst. 2 : 152. 1817

In moist sand, Americus, June, 1897. This seems to be its inland and upper altitudinal limit, as far as known, and also the first station in Georgia.

Scirpus atrovirens Muhl. Gram. 43. 1817

On June 21, 1897, I collected a fine specimen of this species in a meadow near Muckalee Creek in Americus, thus extending its known range over 200 miles.

Scirpus divaricatus Ell. Bot. S. C. & Ga. 1 : 88. *pl. 2. f. 4.* 1816

In alluvial soil along Muckalee Creek, Americus and northward. Not previously reported from Georgia.

Rhynchospora tracyi Britton, Trans. N. Y. Acad. 11 : 84.
1892

Ceratoschoenus capitatus Chapm. Fl. S. States, ed. 1, 529. 1860.

Collected in wet pine-barrens in the southern part of Sumter County, July 21, 1897. This station is farther east and about 100 miles farther north and at a higher altitude than any previously known for this species, and is also the first in Georgia.

Carex folliculata australis Bailey, Proc. Am. Acad. 22 : 62.
1886

Collected in muddy woods near Muckalee Creek about two miles north of Americus, with *Scirpus divaricatus*, July 3, 1897. Not previously reported from Georgia.

PONTEDERIA CORDATA L. Sp. Pl. 288. 1753.

This species seems to be very rare in Georgia. I have collected it only once, in a pine-barren pond in Sumter County, July 21, 1897. This is probably the only station now known in the State.

LILIUM SUPERBUM L. Sp. Pl. ed. 2, 434. 1762

Grows in rich deep damp woods just south of Americus. This seems to be about 150 miles south of any previously known station.

HYMENOCALLIS LACERA Salisb. Trans. Hort. Soc. 1: 338. 1812

Collected in rich woods near DeSoto, Sumter County, July 26, 1897, in flower.

TIPULARIA UNIFOLIA (Muhl.) B.S.P. Prel. Cat. N. Y. 51. 1888

In rich woods, under the shade of *Fagus Americana* and *Magnolia grandiflora*, near Muckalee Creek, Americus. Flowers in August.

HEXALECTRIS APHYLLUS (Nutt.) Raf.; Wats. & Coult. in Gray's Man. ed. 6, 501. 1890

In rich woods, Schley and Sumter Counties, flowering in July, very rare. I have only found two or three specimens.

ERIOGONUM TOMENTOSUM Mx. Fl. Bor. Am. 1: 246. *pl.* 24. 1803

In dry sand, along or near the Flint River, Sumter and Macon Counties, flowering in August. This species has not been reported from farther inland or at a higher altitude.

RUMEX HASTATULUS Baldw.; Ell. Bot. S. C. & Ga. 1: 416. 1817

In dry sandy soil, Americus. Not previously reported from so far inland in the Atlantic States.

FROELICHIA FLORIDANA (Nutt.) Moq. in DC. Prodr. 13²: 420. 1849

Grows in dry sand near the Flint River, Sumter County.

PARONYCHIA RIPARIA Chapm. Fl. S. States, ed. 2, 607. 1883

On July 26, 1897, I collected in dry sand along the Flint River a *Paronychia* which I afterward determined to belong to this species, which is known only from the banks of this river. I can

find no record of the exact location of the original station, but it is no doubt farther south than mine.

CLEMATIS RETICULATA Walt. Fl. Car. 156. 1788

Common in dry sandy fields and woods about Americus, flowering from June to August.

SARRACENIA DRUMMONDII Croom, Ann. Lyc. N. Y. 4: 100. *pl.* 1. 1848.

In sandy bogs, ranging from two miles southeast to three miles northwest of Americus; the largest and commonest species of the genus in Sumter County. I have measured specimens whose leaves and scapes were fully a meter tall. Sumter County seems to be the northern limit of this species.

SARRACENIA RUBRA Walt. Fl. Car. 152. 1788

In bogs with *S. Drummondii*, but less common, and only attaining about one fourth of the maximum dimensions of the former. This species on account of its small size and dull coloring is much more easily overlooked, and does not seem to have been collected many times.

SARRACENIA LACUNOSA Bartr. Travels, 415. 1791

S. variolaris Mx. Fl. Bor. Am. 1: 310. 1803.

Found only in the pine-barrens, where the other two species do not occur. Bartram's description of *S. lacunosa* is sufficiently complete to leave no doubt as to what species he had in mind, and his name antedates that of Michaux by a dozen years. *S. minor* Walt. is still older, but its identity with *S. lacunosa* does not seem to have been established.

DROSERA CAPILLARIS Poir. Encyc. 6: 299. 1804

In sandy bogs, often with the two *Sarracenias* first mentioned, flowering June to August. This is near its inland limit.

AGRIMONIA MOLLIS (T. & G.) Britton, Bull. Torr. Club, 19: 221. 1892

In dry woods, Americus, flowering in August. This is one of its southernmost known stations.

BAPTISIA MEGACARPA Chapm.; T. & G. Fl. N. A. 1: 376. 1838

On July 3, 1897, I found specimens of this species in fruit in dry sandy soil near Muckalee Creek, north of Americus, thus extending its known range northward about 40 miles.

PSORALEA CANESCENS Mx. Fl. Bor. Am. 2: 57. 1803

In dry sand and dry pine-barrens in the eastern part of Sumter Co., rare. Fruits in July. This seems to be its inland and upper altitudinal limit.

AMORPHA VIRGATA Small, Bull. Torr. Club, 21: 17. *pl.* 171. 1894

Collected, in fruit, on the bank of Gum Creek, Dooly County, July 26, 1897.

KUHNISTERA PINNATA (Walt.) Kuntze, Rev. Gen. Pl. 192. 1891

Petalostemon corymbosus Mx. Fl. Bor. Am. 2: 50. 1803.

On Sept. 5, 1897, I collected this curious plant in dry sandy soil on the site of Andersonville Prison, Macon County. At that time its flowers had not begun to open. This seems to be the only definitely known station for it outside of Florida.

GLOTTIDIUM FLORIDANUM DC. Prodr. 2: 266. 1825

Sebania vesicaria Ell. Bot. S. C. & Ga. 2: 222. 1824.

Abundant in low grounds near Muckalee Creek, Americus, flowering in August and September. This is probably the highest known station for it. This plant is one of the largest annuals we have, the stem becoming about 3 meters tall and 4 cm. in diameter at the base. In the fall it becomes hard and woody, and I have cut stems in winter which could not be readily distinguished from a woody branch of the same size.

POLYGALA BOYKINII Nutt. Jour. Acad. Phila. 7: 86. 1834

Collected in dry sandy soil near DeSoto, July 26, 1897.

STILLINGIA AQUATICA Chapm. Fl. S. States, 405. 1860

Found in a wet meadow near Ellaville, July 24, 1895, and in pine-barren ponds, Sumter County, June 26, 1897. The altitude of the former station is about 570 feet, and it is probably the northernmost known for this species.

SEBASTIANA LIGUSTRINA (Mx.) Muell. Arg. in DC. Prodr. 15²:
1165. 1862

Banks of Muckalee Creek and Flint River, Sumter County.
Flowers in June.

EUPHORBIA CORDIFOLIA Ell. Bot. S. C. & Ga. 2: 656. 1824

Collected in dry sandy fields near Andersonville, September 5,
1897. This is one of its highest and northermost stations.

CEANOTHUS MICROPHYLLUS Mx. Fl. Bor. Am. 1: 154. 1803

Collected in dry pine-barrens near Huntington, June 26, 1897,
at which time its fruit had mostly fallen. This station is on or
near its northern limit.

SIDA RHOMBIFOLIA L. Sp. Pl. 684. 1753

Grows in sandy soil, in dry oak groves, Ellaville and Amer-
icus, also near Huntington. Flowers in July and August.

HIBISCUS ACULEATUS Walt. Fl. Car. 177. 1788

In wet places near Leslie, Sumter County, flowering in July and
August. Northern limit?

HYPERICUM FASCICULATUM Lam. Encyc. 4: 160. 1797

In pine-barren ponds, growing 1-1.5 meters tall. Without
flowers this species strikingly resembles a small coniferous tree,
with its shreddy bark, resinous sap, and linear evergreen leaves.
Flowers June to August.

HYPERICUM MYRTIFOLIUM Lam. Encyc. 4: 180. 1797

In moist pine-barrens near Huntington, flowering from June to
August. Northwestern limit?

HYPERICUM PILOSUM Walt. Fl. Car. 190. 1788

Sandy bogs near Americus, flowering in August. Inland
limit?

ASCYRUM PUMILUM Mx. Fl. Bor. Am. 2: 177. 1803

Collected in sandy soil near DeSoto, July 26, 1897. This
seems to be its northern limit, as far as known.

LUDWIGIA PILOSA Walt. Fl. Car. 89. 1788

Collected in wet places near Leslie, August 31, 1897. This species does not seem to have been collected so far inland before.

JUSSIAEA LEPTOCARPA Nutt. Gen. 1 : 279. 1818

In wet ditches, Americus. This seems to be its northeastern-most known station.

HARTMANNA SPECIOSA (Nutt.) Small, Bull. Torr. Club, 23 :
181. 1896

Sparingly introduced along roads and railroads, Americus and eastward.

NYSSA UNIFLORA Wang. Beitr. Forstw. Nordam. Holz. 83. *pl.* 27.
f. 57. 1787

Grows in the swamps of Muckalee Creek a mile or two below Americus. It probably does not extend much farther from the coast, in Georgia at least.

KALMIA LATIFOLIA L. Sp. Pl. 391. 1753

Forms small thickets on the banks of Muckalee Creek in Americus and a short distance south of the city, with *Magnolia grandiflora*. I know of no more southern station for this species.

FRAXINUS CAROLINIANA Mill. Gard. Dict. ed. 8, no. 6. 1788

In Muckalee Creek swamps below Americus. Inland limit?

CHIONANTHUS VIRGINICA L. Sp. Pl. 8. 1753

On muddy banks of Muckalee Creek below Americus, with *Sabal glabra*, *Quercus lyrata*, *Nyssa uniflora*, *Fraxinus Caroliniana*, etc. Here it becomes a tree 6–8 meters tall and about 3 dm. in diameter at the base, appearing very different from the shrub which represents the species in Middle Georgia. Not noticing that its leaves were opposite, I mistook this *Chionanthus* tree for a *Nyssa* for two or three years, and it appears that the same mistake has been made by collectors in other states.

CYNOCTONUM SESSILIFOLIUM (Walt.) Gmel. Syst. 2 : 443. 1791

Occurs in sandy bogs near Americus, flowering in July and August. Inland limit.

SABBATIA MACROPHYLLA Hook. Comp. Bot. Mag. 1 : 171. 1835

Grows in a sphagnous bog north of Americus, at an altitude of about 350 feet. It is accompanied by *Sarracenia rubra*, *S. Drummondii*, *Pogonia ophioglossoides*, *Polygala cruciata ramosior*, *P. lutea*, etc., and flowers in July. This is probably the highest known station for this species. It has been previously reported only from near the Gulf coast.

Sabbatia decandra (Walt.)

Chironia decandra Walt. Fl. Car. 95. 1788.

Sabbatia chloroides var. *erecta* Ell. Bot. S. C. & Ga. 1 : 286. 1817.

Sabbatia chloroides var. *stricta* Griseb. Gen. et Sp. Gent. 125. 1839; also in DC. Prodr. 9 : 50. 1845. Gray, Syn. Fl. N. A. 115. 1886.

Sabbatia dodecandra stricta Mohr, Bull. Torr. Club, 24 : 26. 1897.

Although Walter's description of this species ("flor. decemfidis colore dodecandrae, foliis linearibus, caule rigido erecto") is rather brief, still there is no other known plant in the southeastern states which answers it exactly, and as his name for the species is cited as a synonym by both Elliott and Grisebach, no hesitation is felt in taking it up here.

That it is a species distinct from *S. dodecandra* (L.) B.S.P. (*S. chloroides* Pursh) there can be no doubt after comparing specimens of the two. One important and apparently constant distinguishing character, which seems to have been hitherto overlooked, is found in the calyx-segments. These in *S. decandra* are semicircular in cross-section, and awl-shaped, while in *S. dodecandra* they are flat, and of about the same width from the base to near the apex. *S. decandra* is one of the most beautiful and conspicuous plants of the wet pine-barrens of Sumter County, where it flowers in July and August. Besides my own specimens, collected July 21, 1897, the following in the herbaria of Columbia University and the New York Botanical Garden, all from Florida, are referred here :

DUVAL Co.: *A. H. Curtiss*, July (no. 2231); near Jacksonville, *H. D. Keeler*, 1870-76, *A. H. Curtiss*, July 10, 1893 (no.

4374), July 16, 1894 (no. 5050); Baldwin, *G. V. Nash*, July 20, 1895 (no. 2250); Pablo, *L. H. Lighthipe*, July 11, 1896 (no. 372).

Between Quincy and Aspalaga, and near St. Marks, *Rugel*, July, 1843. Without definite locality or date : *Allison* (no. 329); *Chapman*.

SABBATIA GENTIANOIDES Ell. Bot. S. C. & Ga. 1 : 286. 1817

With the preceding, flowering at the same time, and with very similar flowers. Both probably reach their inland and upper altitudinal limits here.

ASCLEPIAS AMPLEXICAULIS Smith, Georgia Insects 1 : 13. *pl.* 7. 1797

A. obtusifolia Mx. Fl. Bor. Am. 1 : 115. 1803.

Grows in dry sandy soil north of Americus; not common.

ASCLEPIAS TOMENTOSA Ell. Bot. S. C. & Ga. 1 : 321. 1817

In dry pine-barrens between Huntington and Leslie, flowering in July and August. I find no record of any station farther north than this.

JACQUEMONTIA TAMNIFOLIA (L.) Griseb. Fl. Brit. W. I., 474

In sandy soil, especially in cultivated fields, Americus and eastward. This is near its northern limit.

BREWERIA AQUATICA (Walt.) Gray, Syn. Fl. N. A. 2¹ : 217. 1878

In moist pine-barrens near Huntington, June 26, 1897. I do not find that this species has been previously reported from Georgia.

CUSCUTA COMPACTA Juss.; Choisy, Mem. Soc. Gen. 9 : 281. *pl.* 4. *f.* 2. 1841.

On various shrubs, especially about the edges of swamps, common. Flowers in September.

DICERANDRA LINEARIFOLIA (Ell.) Benth. in DC. Prodr. 12 : 243. 1848

Ceranthra linearifolia Ell. Bot. S. C. & Ga. 2 : 94. 1821.

Collected in dry sandy soil near Andersonville, Sept. 5, 1897. The place where I found this plant answers very well Elliott's de-

scription of the type locality, which is "high pine-barren ridges between the Flint and Chatahouchie rivers." The original station was probably farther south than mine however.

MESOSPHAERUM RUGOSUM (L.) Pollard, Bull. Torr. Club, **24**: 156.
1897

Hyptis radiata Willd. Sp. Pl. **3**: 84. 1081.

Grows in moist sandy places in the eastern part of Sumter County. Flowers. Northern limit?

LEONOTIS NEPETAEFOLIA R. Br. Hort. Kew. ed. 2, **3**: 409. 1811

I have found this showy weed along sandy roadsides at two or three localities north and east of Americus.

GRATIOLA QUADRIDENTATA Mx. Fl. Bor. Am. **1**: 6. 1803

In wet pine-barrens and sandy bogs, Sumter County.

GERARDIA LINIFOLIA Nutt. Gen. **2**: 47. 1818

Collected in moist pine-barrens near Huntington, Aug. 30-31, 1897, in flower. Not previously reported from Georgia.

UTRICULARIA MACRORHYNCHA Barnhart, Bull. Torr. Club, **25**: 515.
1898

Grows in wet muddy or sandy places; the commonest *Utricularia* in Sumter County. This species has been previously reported only from Florida.

EPIPHEGUS VIRGINIANA (L.) Bart. Comp. Fl. Phila. **2**: 50. 1818

Found only in "Magnolia Dell" near Muckalee Creek, Americus, under *Fagus Americana*.

CATALPA BIGNONIODES Walt. Fl. Car. 64. 1788

Grows on high banks of the Flint River, on the Sumter County side. There has been some uncertainty as to the native habitat of this species, but the evidence is strongly in favor of its being native in Georgia. The locality above mentioned is in a region remote from human habitations, where there are no introduced plants within many miles, so that it is extremely improbable that the *Catalpa* could have been introduced.

RICHARDSONIA SCABRA St. Hil. Pl. Us. Bres. 7: *pl.* 8

Not rare in sandy waste places and cultivated fields, Americus.

PINCKNEYA PUBENS Mx. Fl. Bor. Am. 1: 105. *pl.* 13. 1803

This unique and interesting shrub is quite common in non-alluvial swamps in Sumter County, and flowers in June and July. It has not previously been reported so far from the coast or at so high an altitude.

VIBURNUM DENTATUM L. Sp. Pl. 268. 1753

Grows in a swampy place near Barlow's Mill, Sumter County, where it flowers in September. This seems to be its southern limit.

LACINARIA ELEGANS (Walt.) Kuntze, Rev. Gen. Pl. 349. 1891

In dry sandy soil east and west of Americus, flowering in August and September. According to my observations the corollas in this species are invariably pure white, a fact which does not seem to have been noted before:

ASTER ADNATUS Nutt. Jour. Acad. Phila. 7: 82. 1834

Not rare in moist pine-barrens east of Huntington. Previously known only from Florida and Alabama. The flowers of this species must be very late, for no trace of them is visible at the end of August.

RUDBECKIA MOHRII Gray, Proc. Am. Acad. 17: 217. 1882

R. bupleuroides Shuttl.; Chapm. Fl. S. States, ed. 2, 629, 1883.

One of the characteristic plants of moist pine-barrens in the southeastern part of Sumter County, flowering from June to the end of August. This makes the third known station for this species. the other two being in West Florida, about 125 miles farther south and 200 feet lower.

HELIANTHUS RADULA (Pursh) T. & G. Fl. N. A. 2: 321. 1842

In moist pine-barrens, flowering in September. Sumter County seems to be its northern limit, as far as known.

COREOPSIS NUDATA Nutt. Gen. 2 : 180. 1818

Collected in moist pine-barrens near Huntington, June 26, 1897, in flower. Previously known only from Florida and the adjacent coast of Georgia. The type-locality of this species is given by Nuttall as "St. Mary's, West Florida," but St. Mary's is in southeastern Georgia.

LYGODESMIA APHYLLA (Nutt.) DC. Prodr. 7 : 198. 1838

Collected in dry sand near the Flint River, in Dooly County, July 26, 1897. The type-locality and previously known range of this species are the same as in the case of *Coreopsis nudata*.

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